

Interactive comment on “Atmospheric CO and CH₄ time series and seasonal variations on Reunion Island from ground-based in-situ and FTIR (NDACC and TCCON) measurements” by Minqiang Zhou et al.

Anonymous Referee #2

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General

In this paper two sites at reunion island , equipped with ground based sensors and solar FTIRs have been employed to study the abundance of CH₄ and CO in the atmosphere.

The value of the paper lies in the position of the sites with valuable data in the southern hemisphere of two gaseous species which are important for the climate and the general atmospheric chemistry , due to their large impact on the abundance of OH. The site is also positioned at a latitude with affected largely by wild fires from Africa and South

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America and can hence improve the understanding of emissions.

The paper provides a good description of FTIR column data with a solid error description, demonstrating the usefulness of column data and what extra information can be obtained compared with in situ ground based data. The authors make a nice demonstration how to interpret the column data and motivates why it is different from in situ data, especially for CH₄.

Overall I believe this is a solid paper that provides a good description of the methodology on how to interpret column data and useful data for future studies , especially in the context of being in a remote area with very few available measurements.

The paper is nicely written with illustrative figures and I don't see any obvious errors. I therefore suggest it can be published as it is.

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